

2-21
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35683

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

SEARCH REQUEST FORM

Examiner # (Mandatory): 74010 Requester's Full Name: Dennis Pithers

Art Unit 3764 Location (Bldg/Room#): 3D49 Phone (circle 305 306 (308) 1493

Serial Number: 09/382,433 Results Format Preferred (circle) PAPER DISK E-MAIL

Title of Invention _____

Inventors (please provide full names): John Stark

Earliest Priority Date: 8-25-99

Keywords (include any known synonyms registry numbers, explanation of initialisms):

display
position sensor / strain sensor
exercising
interactive
neuromotor training

sense track position
+ direction of limb
+ pressure/static
C. L. 0222

Search Topic:

Please write detailed statement of the search topic, and the concept of the invention. Describe as specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples of relevant citations, authors, etc., if known. You may include a copy of the abstract and the broadcast or most relevant claim(s).

See claim 24 - method of performing coordination exercises
for neuromotor training.

STAFF USE ONLY

Searcher: JEANNE HERRIGAN

Searcher Phone #: 305-5934

Searcher Location: CP2-2C08

Date Picked Up: 2/21

Date Completed: 2/21

Clerical Prep Time: 88

Terminal Time: 47

Number of Databases: _____

Type of Search

_____ N.A. Sequence

_____ A.A. Sequence

_____ Structure (#)

☒ Bibliographic

_____ Litigation1

_____ Fulltext

_____ Procurement

_____ Other

Vendors (include cost where applicable)

_____ STN

_____ Questel/Orbit

_____ Lexis/Nexis

_____ WWW/Internet

_____ In-house sequence systems (list)

☒ Dialog

_____ Dr. Link

_____ Westlaw

_____ Other (specify)

February 21, 2001

TO: Denise Pothier, Art Unit 3764

FROM: Jeanne Horrigan, EIC-3700



SUBJECT: Search Results for Serial #09/382433

Attached are the search results for "Orthoses for Joint Rehabilitation," including results of an inventor search in foreign patent databases, and prior art searches in foreign patent and sci/tech/med bibliographic and full text databases. I tagged the items that looked most relevant to me, but I suggest that you review all of the results.

I hope these results are useful. Please let me know if you would like me to expand or modify the search or if you have any questions.

File 155:MEDLINE(R) 1966-2000/Dec W4
 File 144:Pascal 1973-2001/Feb W2
 File 5:Biosis Previews(R) 1969-2001/Feb W2
 File 6:NTIS 1964-2001/Mar W1
 File 2:INSPEC 1969-2001/Feb W3
 File 8:Ei Compendex(R) 1970-2001/Jan W4
 File 65:Inside Conferences 1993-2001/Feb W3
 File 77:Conference Papers Index 1973-2001/Jan
 File 73:EMBASE 1974-2001/Feb W2
 File 34:SciSearch(R) Cited Ref Sci 1990-2001/Feb W3
 File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
 File 94:JICST-EPlus 1985-2001/Feb W1
 File 35:Dissertation Abstracts Online 1861-2000/Dec

Set	Items	Description
S1	549340	EXERCIS?
S2	395534	REHABILITAT?
S3	6285499	THERAP?
S4	1969072	COORDINAT?
S5	2893	NEUROMOTOR
S6	1098407	JOINT OR LIMB
S7	494257	SENSOR OR SENSORS
S8	44993	ORTHOS?
S9	11123	ORTHOTIC?
S10	510027	ORTHOP?
S11	0	S1:S3 AND S4 AND S5:S6 AND S7 AND S8:S10
S12	1114	S7 AND S8:S10
S13	251	S1:S3 AND S12
S14	4675	CURSOR
S15	0	S13 AND S14
S16	0	S15 AND S4:S6
S17	103	S13 AND S4:S6
S18	97	RD (unique items)
S19	10	S18/2001 OR S18/2000
S20	87	S18 NOT S19
S21	1	S7(5N)S8:S10 AND S20
S22	14	S7(S)S8:S10 AND S20
S23	13	S22 NOT S21
S24	13	RD (unique items)
S25	1040872	POSITION
S26	1173798	STRAIN
S27	11	S25()S7 AND S26()S7
S28	11	S27 NOT S24
S29	8	RD (unique items)

21/7/1 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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02661345 E.I. Monthly No: EIM8810-055426

Title: NEW TOOL FOR STROKE REHABILITATION STUDY.

Author: Isaka, Satoru; Schneider, Alan M.; Filia, Philip; Kok Keun Lue; Coutts, Richard D.; Nickel, Vernon L.

Corporate Source: Univ of California, San Diego, CA, USA

Conference Title: RESNA '87: Meeting the Challenge, Proceedings of the 10th Annual Conference on Rehabilitation Technology.

Conference Location: San Jose, CA, USA Conference Date: 19870619

Sponsor: RESNA-Assoc for the Advancement of Rehabilitation Technology, Washington, DC, USA

E.I. Conference No.: 11561

Source: Publ by RESNA-Assoc for the Advancement of Rehabilitation Technology, Washington, DC, USA p 287-289

Publication Year: 1987

Document Type: PA; (Conference Paper)

Journal Announcement: 8810

Abstract: This paper describes a new measuring system that is currently being used for stroke patient rehabilitation study at Sharp Hospital in San Diego, CA. The system consists of an orthosis with sensors, an interface box, and a data processor with peripherals. Precise measurements of the motion at the knee joint of a stroke patient are obtained by the sensors, and are fed into the processor which provides a reliable, repeatable, quantitative measure of the patient performance. The results can be displayed in graphs and tables using an interactive book-keeping program called 'SPRP'. (Author abstract) 1 ref.

24/6,K/1 (Item 1 from file: 155)

DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.
08146988 95258608

Treatment of limb deformities by the Ilizarov method]
1994

... to adapt and this report describes our experience using the Ilizarov apparatus to treat axial limb deformities. MATERIAL AND METHODS: A total of 48 patients (22 girls and 26 boys aged...

... involved an isolated deformity (16 bones and 16 joints) and 27 were associated with other orthopedic problems. The cause of the deformities were either malformation or infection in most cases. In...

... all three planes. Correction was progressive in 49 cases and immediate in 9 cases. Unequal limb length was treated in 21 cases: 19 of these were caused by bone deformity. The...

... segment to be corrected, from metaphysis to metaphysis. When the deformity is close to a joint, the joint should be bridged so as to stabilize the brace. The fastening of the sides of...

... insufficiently mineralized regenerated bone tissue formed during lengthening. In one case, the common, motor and sensor peroneal nerve was paralyzed, complicating the correction of an anterior dislocation of the knee. The...

... events to effect the intended lengthening of the bone. DISCUSSION: The Ilizarov method for correcting joint ankylosis is difficult to perform, and depends on a detailed knowledge of the apparatus and...

Descriptors: External Fixators; *Extremities--Abnormalities--AB; *Physical Therapy; Abnormalities--Rehabilitation--RH; Abnormalities--Surgery--SU; Adolescence; Child; Child, Preschool; Extremities--Surgery--SU; Femur--Abnormalities--AB; Methods...

24/6,K/2 (Item 2 from file: 155)

DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.
08102675 95135583

Effect of metatarsal pads and their positioning: a quantitative assessment.
Oct 1994

... have been related to pressure maldistribution. Alteration of plantar pressure through improvements of shoe fit, orthoses, and surgery are presumed to correct pressure maldistribution. We evaluated 10 volunteers with normal, asymptomatic feet. With the use of an ultrathin in-shoe sensor, plantar pressures were measured within the shoe at the shoe/foot interface. Test conditions included...

Descriptors: Orthotic Devices; *Pain--Therapy--TH; *Toe Joint

--Physiopathology--PP

24/6,K/3 (Item 3 from file: 155)
DIALOG(R)File 155:(c) format only 2000 Dialog Corporation. All rts. reserv.
05311821 88201143

Hybrid FES orthosis incorporating closed loop control and sensory feedback.

Apr 1988

A hybrid functional electrical stimulation (FES) orthosis is described, comprising a rigid ankle-foot brace, a multi-channel FES stimulator with surface electrodes, body mounted sensors, a 'rule-based' controller and an electro-cutaneous display for supplementary sensory feedback. The mechanical...

... is conditional upon the position of the ground reaction vector (GRV) relative to the knee joint. The finite state FES controller reacts automatically to destabilizing shifts of the GRV by stimulating...

Descriptors: Electric Stimulation--Instrumentation--IS; * Orthotic Devices; *Paraplegia- Rehabilitation --RH; *Sensory Aids

24/6,K/8 (Item 2 from file: 8)
DIALOG(R)File 8:(c) 2001 Engineering Info. Inc. All rts. reserv.
02626291

Title: HYBRID FES ORTHOSIS INCORPORATING CLOSED LOOP CONTROL AND SENSORY FEEDBACK.

Publication Year: 1987

Abstract: A hybrid functional electrical stimulation (FES) orthosis is described, comprising a rigid ankle-foot brace, a multi-channel FES stimulator with surface electrodes, body mounted sensors, a 'rule-based' controller and an electro-cutaneous display for supplementary sensory feedback. The mechanical...

...is conditional upon the position of the ground reaction vector (GRV) relative to the knee joint. The finite state FES controller reacts automatically to destabilizing shifts of the GRV by stimulating...

...Descriptors: Musculoskeletal Systems; HUMAN REHABILITATION ENGINEERING...

Identifiers: RIGID ANGLE-FOOT BRACE; SENSORY FEEDBACK; GROUND REACTION VECTOR; HYBRID ORTHOSIS ; CLOSED LOOP CONTROL

24/6,K/9 (Item 1 from file: 73)
DIALOG(R)File 73:(c) 2001 Elsevier Science B.V. All rts. reserv.
10563202 EMBASE No: 2000028047

Hand grasp control by force and position feedback for the C5/C6 spinal cord injured

1999

...system development was through integrated digital microcontroller, DC motor and driver control, position and force sensors, spastic hand muscle and joint stiffness, simple spring mechanical model for linear control, decision rules and parameters for grasping an...

...controller, 8x196 microcontroller, DC-motor/driven circuit, transmission mechanism and hand splint, force and position sensors. Contact force during grasping and holding objects with different sizes/material properties are manipulated by...

...development of assistive devices is very new in Taiwan. The R and D of dynamic orthosis is strongly demanded for C5/C6 SCI. This dynamic assistive orthosis using feedback control not only improves the hand grasp function, also is valuable in providing practice, exercise, and grasp function evaluation in rehabilitation.

MEDICAL DESCRIPTORS:

force; motor control; splint; body movement; elbow flexion; hand function;
orthosis ; feedback system; article
SECTION HEADINGS: 027 Biophysics, Bioengineering and Medical Instrumentation
033 Orthopedic Surgery

24/6,K/10 (Item 2 from file: 73)
DIALOG(R)File 73:(c) 2001 Elsevier Science B.V. All rts. reserv.
01340946 EMBASE No: 1979061605
Proper fitting of the cervical orthosis
1978

This study evaluated the effect of fitting of the sternal occipital
mandibular immobilization (SOMI) orthosis in restricting sagittal
cervical spine motion. Cervical orthotic devices are usually fitted
according to the subjective tolerance of the patient. Pressures were
recorded...

...in the usual manner, were approximately 105 mmHg at the chin and
occiput. When pressure sensors were used to fit the brace loosely, the
average pressure was approximately 25 mmHg. The...

MEDICAL DESCRIPTORS:*cervical spine; *orthotics; human cell; normal human; joint
SECTION HEADINGS: 019 Rehabilitation and Physical Medicine; 033 Orthopedic
Surgery; 008 Neurology and Nerosurgery

24/6,K/11 (Item 3 from file: 73)
DIALOG(R)File 73:(c) 2001 Elsevier Science B.V. All rts. reserv.
01301528 EMBASE No: 1979022091
Application of a partial external support for paraplegics
1978

After experiments carried out for several years at the Belgrade
University Orthopaedic Clinic, an apparatus with a high technical
standard could be designed. Its object is to...

...lower limbs. Walking is made possible by motion in three typical joints
of the lower limb , which is programmed in individual consecutive phases.
Pneumatic cylinders serve as power units, one each in every part for one
lower limb . The apparatus is also equipped with an adjustment control
system for possible changes or disturbances...

...locomotion mechanism. Data on changes and phases of position are
mediated by a system of sensors situated on the artificial leg surface.
Clinical trials revealed that the whole system is accepted...

SECTION HEADINGS: 033 Orthopedic Surgery; 019 Rehabilitation and Physical
Medicine; 008 Neurology and Nerosurgery

24/6,K/12 (Item 4 from file: 73)
DIALOG(R)File 73:(c) 2001 Elsevier Science B.V. All rts. reserv.
00126563 EMBASE No: 1974116669
An upper limb prosthesis orthosis power and control system with multi
level potential
1973

An electrical power and control unit was designed to power paralyzed or
prosthetic upper limb joints in the mode of an artificial muscle. The
system permits placing the components in any desirable location on the
patient, interchanging terminal devices, actuating more than one joint by
a single motor, and easy interfacing with a wide variety of orthotic and
prosthetic components, including those of modular endoskeletal design.
Sensor options for control signal acquisition include a new skin motion
sensor for shoulder disarticulation amputees and an improved myoelectric
sensor .

MEDICAL DESCRIPTORS:*arm prosthesis; *orthosis

SECTION HEADINGS: 009 Surgery; 033 Orthopedic Surgery; 019 Rehabilitation and Physical Medicine

24/6,K/13 (Item 1 from file: 94)
DIALOG(R)File 94:(c)2001 Japan Science and Tech Corp(JST). All rts.reserv.
03655934 JICST ACCESSION NUMBER: 98A0757529 FILE SEGMENT: JICST-E
Restoration of the lower extremities using functional electrical stimulation., 1998
...ABSTRACT: system with percutaneous electrodes. The system was consisted of a 18-channel stimulator and knee sensors . The continuous standing ability of the patients prolonged 3 times with closed-loop stimulation...
...prolong upright activities in complete paraplegia. In restoration of gait, we have used floor-reaction orthosis , reciprocating gait orthosis , Walkabout, and Akita knee joint orthosis for hybrid FES. The patients could walk with hybrid FES without complications...
...DESCRIPTORS: rehabilitation ;

24/7/4 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2001 Institution of Electrical Engineers. All rts. reserv.
6553196 INSPEC Abstract Number: A2000-10-8770J-010, B2000-05-7520E-020, C2000-05-3385C-008
Title: Hand grasp control by force and position feedback for the C5/C6 spinal cord injuries
Author(s): Chang-Jenn Lin; Kao-Chi Chung; Yu-Hsien Chiu
Author Affiliation: Inst. of Biomed. Eng., Nat. Cheng Kung Univ., Tainan, Taiwan
Journal: Chinese Journal of Medical and Biological Engineering vol.19, no.4 p.239-46
Publisher: Biomed. Eng. Soc. Republic of China,
Publication Date: Dec. 1999 Country of Publication: Taiwan
CODEN: ZYGXE4 ISSN: 1019-0465
SICI: 1019-0465(199912)19:4L.239:HGCF;1-P
Material Identity Number: C310-2000-001
Language: Chinese Document Type: Journal Paper (JP)
Treatment: Practical (P)

Abstract: This project was to design a powered hand grasp control system with assistive technology to improve functional independence for the C5/C6 SCI. Using modern mechatronics technology, the system development was through integrated digital microcontroller, DC motor and driver control, position and force sensors , spastic hand muscle and joint stiffness, simple spring mechanical model for linear control, decision rules and parameters for grasping an object and then releasing, feedback input control, patient-specified function parameters, interface concern and programmable algorithm. The system consists of power supply, input controller, 8*196 microcontroller, DC-motor/driven circuit, transmission mechanism and hand splint, force and position sensors . Contact force during grasping and holding objects with different sizes/material properties are manipulated by a linear control algorithm. To operate this system, the user/patient is expected to turn it on via an on/off switch. After the system assembly and completion of system function testing with safety consideration, a pilot field testing was conducted by a C6-complete SCI patient for clinical use. During the testing, it was demonstrated that the patient initially used shoulder motion to press the on/off switch, then the grasping action was followed with a cup hold and raised to near his mouth by elbow flexion and supination, and finally the cup was put down and released through reverse procedure. The results have shown the evidence

that the prototype design seems to be cost-effective for improved hand grasp/release function. Design and development of assistive devices is very new in Taiwan. The R&D of dynamic orthoses is strongly demanded for C5/C6 SCI. This dynamic assistive orthosis using feedback control not only improves the hand grasp function, also is valuable in providing practice, exercise, and grasp function evaluation in rehabilitation. (3 Refs)

Subfile: A B C

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24/7/5 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

6441518 INSPEC Abstract Number: A2000-02-0130C-057, B2000-01-0100-095, C2000-01-7330-369

Title: Proceedings of the First Joint BMES/EMBS Conference. 1999 IEEE Engineering in Medicine and Biology 21st Annual Conference and the 1999 Annual Fall Meeting of the Biomedical Engineering Society (Cat. No.99CH37015)

Part vol.1

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 1999 Country of Publication: USA 2 vol. vi+1345 pp.

ISBN: 0 7803 5674 8 Material Identity Number: XX-1999-03127

U.S. Copyright Clearance Center Code: 99/\$10.00

Conference Title: Proceedings of the First Joint BMES/EMBS Conference

Conference Sponsor: Medtronic; Johnson & Johnson; Baxter Cardio Vascular Group; Becton Dickinson & Co.; Georgia Biomed. Partnership; Guidant Found.; Kilpatrick Stockton LLP; King & Spaulding; Troutman Sanders LLP; Adv. Tissue Sci.; AVL Biosense Corp.; CUH2A; Ernst & Young LLP; State of Georgia; Dept. Ind.; Trade & Tourism; Healthdyne Companies; Long Aldrige & Norman; Porex Corp.; Sulzer Innotec; Turner Constr. Company

Conference Date: 13-16 Oct. 1999 Conference Location: Atlanta, GA, USA

Language: English Document Type: Conference Proceedings (CP)

Abstract: The following topics were dealt with: molecular, cellular and tissue engineering; molecular and cell mechanics; cardiovascular system; modelling; clinical applications; respiratory system; neural engineering; neuromuscular systems and orthopaedic engineering; accessibility, assistive technology and rehabilitation engineering; telemedicine and health care technology; artificial devices, biomaterials and implants; instrumentation, sensors and measurements; biosignal processing and systems analysis; imaging and image processing; bioinformatics, computational biology and physiome; biomedical information technology; education and professional activities.

Subfile: A B C

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24/7/6 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

03637454 INSPEC Abstract Number: A90065374, B90034506, C90033057

Title: Progress in Bioengineering. Proceedings of an International Seminar held on the Occasion of the 25th Anniversary of the Strathclyde Bioengineering Unit

Editor(s): Paul, J.P.; Barbenel, J.C.; Courtney, J.M.; Kenedi, R.M.

Publisher: Adam Hilger, Bristol, UK

Publication Date: 1989 Country of Publication: UK x+299 pp.

ISBN: 0 85274 085 9

Conference Date: Sept. 1988 Conference Location: Glasgow, UK

Language: English Document Type: Conference Proceedings (CP)

Abstract: The following topics were dealt with: artificial organs including blood detoxification systems and haemocompatibility assessment; delivery of rehabilitation including wheelchair and support surface evaluation, assist devices for the disabled; orthopaedic biomechanics including joint replacement, implants and sports biomechanics; prosthetics and orthotics including alignment, orthotic loading and CAD/CAM techniques; technological advances including lasers in surgery, neuroprostheses and sensors .

Subfile: A B C

24/7/7 (Item 1 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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02932653 E.I. Monthly No: EIM9007-031113

Title: Sensory feed-back in hybrid orthotic system.

Author: Popovic, Dejan; Schwirtlich, Laszlo

Corporate Source: Fac of Electr Eng, Univ of Belgrade, Belgrade, Yugosl

Conference Title: Images of the Twenty-First Century - Proceedings of the 11th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. Part 5

Conference Location: Seattle, WA, USA Conference Date: 19891109

E.I. Conference No.: 13240

Source: Proceedings of the Annual Conference on Engineering in Medicine and Biology v 11 pt 5. Publ by Alliance for Engineering in Medicine & Biology, Bethesda, MD, USA. Available from IEEE Service Cent (cat n 89CH2770-6), Piscataway, NJ, USA. p 1475-1476

Publication Year: 1989

CODEN: CEMBAD ISSN: 0589-1019

Language: English

Document Type: PA; (Conference Paper) Treatment: X; (Experimental)

Journal Announcement: 9007

Abstract: Motor restoration of paralyzed humans using a hybrid orthotic system (HOS) known as artificial reflex control is discussed. Artificial reflex control is a nonnumerical procedure requiring sensory information. The sensory information for a hybrid brace combining functional electrical stimulation and an externally controlled modular brace consists of ground force record, angular displacement from the gravity line, joint angles and electromyogram (EMG) signals. Sensors for the HOS are described. The use of an EMG monitor is believed to increase the efficacy of the HOS by reducing muscle fatigue, increasing safety, and reducing the use of external power. External power is used only in that phase of the gait in which muscular function is not adequate. 5 Refs.

29/6/1 (Item 1 from file: 144)

14421495 PASCAL No.: 00-0078526

Optical Grating Diffraction Method: From Strain Microscope to Strain Gauge 1999-12-01

29/6/2 (Item 1 from file: 6)

1630096 NTIS Accession Number: N92-13980/7

Fiber Optic Smart Structures

1989

29/6/3 (Item 2 from file: 6)

1500818 NTIS Accession Number: NTN90-0346

Tunnel-Effect Displacement Sensor: This simple device is extremely

sensitive to small displacements (NTIS Tech Note)
Apr 90

29/6/4 (Item 1 from file: 2)
6499783 INSPEC Abstract Number: A2000-06-0760L-016, B2000-03-7230G-066
Title: Moire interferometric strain sensor
Publication Date: 1999

29/6/5 (Item 2 from file: 2)
03946572 INSPEC Abstract Number: A91102048, B91059478
Title: Fibre optic sensor moving ahead
Publication Date: May 1991

29/6/6 (Item 1 from file: 8)
02621542
Title: AUTOMATION OF MONITORING OF GEOTECHNICAL INSTRUMENTATION.
Publication Year: 1987

29/6/7 (Item 1 from file: 94)
04000698 JICST ACCESSION NUMBER: 99A0201030 FILE SEGMENT: JICST-E
Magnetoelastic devices composed of Highly Magnetostrictive film and
Piezoelectric Ceramics., 1998

29/7/8 (Item 2 from file: 94)
DIALOG(R)File 94:JICST-EPlus
(c)2001 Japan Science and Tech Corp(JST). All rts. reserv.
03794935 JICST ACCESSION NUMBER: 99A0031575 FILE SEGMENT: JICST-E
Magnetic Micro-Machines for Medial Uses and Magnetic Field Sensors with
Ultra-High Sensitivity.
ARAI KEN'ICHI (1); INOUE MITSUTERU (1); YAMAGUCHI MASAHIRO (1); ISHIYAMA
KAZUSHI (1)
(1) Res. Inst. of Electr. Commun., Tohoku Univ.
Nippon Oyo Jiki Gakkai Kenkyukai Shiryo, 1998, VOL.107th, PAGE.41-48,
FIG.16, TBL.1, REF.23
JOURNAL NUMBER: Z0979AAS ISSN NO: 1340-7562
UNIVERSAL DECIMAL CLASSIFICATION: 621.382:537.633 616-073:612-087
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication

ABSTRACT: This article reviews our recent studies on magnetic
micro-machines for use in medial applications and magnetic field
sensors with ultra-high sensitivity which are intended to use as
position sensors of the magnetic micro-machines in living bodies.
The magnetic micro-machines with tiny magnets, which are driven by a
rotating magnetic field, are characterized by their wireless swimming
abilities. The magnetic field sensors as position sensors are
driven by high frequency currents, and the magnetic field is detected
as a change in high frequency impedance of magnetic thin films due to
the permeability-dependent skin effect. Fundamental performance of
strain sensors with ultra-high sensitivity, which utilize
strain-dependent skin effect, is also summarized. (author abst.)

File 9:Business & Industry(R) Jul/1994-2001/Feb 20
 File 16:Gale Group PROMT(R) 1990-2001/Feb 20
 File 160:Gale Group PROMT(R) 1972-1989
 File 148:Gale Group Trade & Industry DB 1976-2001/Feb 20
 File 621:Gale Group New Prod.Annou.(R) 1985-2001/Feb 20
 File 636:Gale Group Newsletter DB(TM) 1987-2001/Feb 16
 File 441:ESPICOM Pharm&Med DEVICE NEWS 2001/Feb W2
 File 20:World Reporter 1997-2001/Feb 21
 File 813:PR Newswire 1987-1999/Apr 30
 File 98:General Sci Abs/Full-Text 1984-2001/Jan

Set	Items	Description
S1	636526	EXERCIS?
S2	181511	REHABILITAT?
S3	586312	THERAP?
S4	683648	COORDINAT?
S5	89	NEUROMOTOR
S6	2389003	JOINT OR LIMB
S7	211819	SENSOR OR SENSORS
S8	2204	ORTHOS?
S9	2929	ORTHOTIC?
S10	51074	ORTHOP?
S11	2437968	POSITION
S12	115602	STRAIN
S13	10	S11()S7 AND S12()S7
S14	7	RD (unique items)
S15	7	Sort S14/ALL/PD,D
S16	11	S1:S3 (S) S7 (S) S8:S10
S17	11	S16 NOT S13
S18	9	RD (unique items)

15/6/1 (Item 1 from file: 16)
 06604237 Supplier Number: 55625120 (USE FORMAT 7 FOR FULLTEXT)
 PRODUCT BRIEFS.
 August, 1999
 Word Count: 2304

15/6/2 (Item 2 from file: 16)
 05006439 Supplier Number: 47352645 (USE FORMAT 7 FOR FULLTEXT)
 SENSOR MARKETS AND TECHNOLOGIES UPDATE: SARCOS ACTIVATES DEVELOPMENTS IN
 MICROSENSORS AND MICROSYSTEMS
 May 1, 1997
 Word Count: 2503

15/6/3 (Item 3 from file: 636)
 02714581 Supplier Number: 45508210 (USE FORMAT 7 FOR FULLTEXT)
 NEW MATERIALS -- THICK FILM PHOTSENSORS
 May, 1995
 Word Count: 174

15/6/4 (Item 4 from file: 148)
 07317180 SUPPLIER NUMBER: 14959751 (USE FORMAT 7 OR 9 FOR FULL TEXT)
 A showcase of new equipment. (CON/AGG '94 Catalog)
 Jan, 1994
 WORD COUNT: 6760 LINE COUNT: 00565

15/6/6 (Item 6 from file: 148)
 02825374 SUPPLIER NUMBER: 04244160 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Sensors and transducers. (1986 Electrical and Industrial Electronics
Reference Issue)

May 15, 1986

WORD COUNT: 8224 LINE COUNT: 00703

15/6/7 (Item 7 from file: 148)
02031372 SUPPLIER NUMBER: 03285225 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Transducers. (1984 Electrical & Electronics Reference Issue)
May 31, 1984
WORD COUNT: 7852 LINE COUNT: 00660

15/3,AB/5 (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2001 The Gale Group. All rts. reserv.
03134343 SUPPLIER NUMBER: 04967414 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Sensors and transducers: gaging physical qualities.
Machine Design, v59, p135(15)
May 14, 1987
ISSN: 0024-9114 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 8507 LINE COUNT: 00719

18/6/1 (Item 1 from file: 16)
06873220 Supplier Number: 58180766 (USE FORMAT 7 FOR FULLTEXT)
Disposable medical sensor line in sets.
Dec 6, 1999
Word Count: 114

18/6/2 (Item 2 from file: 16)
03955034 Supplier Number: 45728985
Ein neues System soll Chirurgen erm glichen,/
August 14, 1995

18/6/3 (Item 3 from file: 16)
03881635 Supplier Number: 45580951 (USE FORMAT 7 FOR FULLTEXT)
SMD INTRODUCES NEW SPUTTERED THIN FILM MEDICAL LOAD CELL, IDEAL FOR MEDICAL
INSTRUMENTS
June 1, 1995
Word Count: 393

18/6/4 (Item 4 from file: 16)
02876378 Supplier Number: 43878057 (USE FORMAT 7 FOR FULLTEXT)
SENSOR MARKETS AND TECHNOLOGIES UPDATE: TEKSCAN IS IN TOUCH WITH MAJOR
OPPORTUNITIES FOR TACTILE SENSORS
June, 1993
Word Count: 1658

18/6/7 (Item 2 from file: 20)
05855741 (USE FORMAT 7 OR 9 FOR FULLTEXT)
PR Newswire Southwest Summary, Tuesday, June 22, to 12:00 EDT
June 22, 1999
WORD COUNT: 585

18/7/5 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2001 The Gale Group. All rts. reserv.
02048883 Supplier Number: 43734201 (THIS IS THE FULLTEXT)
Patents. . .

Health Business, pN/A

March 26, 1993

TEXT:

(EDITOR'S NOTE: Patent numbers and number of claims are in parentheses. Unassigned patents include holder's name and address)

Diagnostics/Equipment -- Assigned: Cardiac lead with retractable fixators (5,179,962/37), to Possis Medical. . . .Automatic compression-distraction-torsion method and apparatus (5,180,380/32), to Autogenesis. . . .Apparatus and method for antitachycardia pacing using a virtual electrode (5,181,511/28), to Teletronics Pacing Systems. . . .Method and apparatus for the measurement of atrial pressure (5,181,517/30), to The State University of New York. . . .Device for detecting abnormal heart muscle electrical activity (5,181,519/20), to Caliber Medical. . . .Double-transducer system for PEMF therapy (5,181,902/9), to American Medical Electronics. . . .Temperature control device for fluid-filled pad (5,183,039/4), to Baxter International. . . .Apparatus and method for detecting abnormal cardiac rhythms using an ultrasound sensor in an arrhythmia control system (5,183,040/34), to Teletronics Pacing Systems. Unassigned: Adjustable orthosis (5,167,612/37), to P.M. Bonutti, P.O. Box 1387, Watson IL 62401. . . .Apparatus for facilitating post-traumatic post-surgical, and/or post-inflammatory healing of tissue (5,169,384/26), to S.L. Bosniak, 12 Gay St., New York NY 10014. . . .Leadless magnetic cardiac pacemaker (5,170,784/22), to Ceon Ramon, 3845 NE 86th Street, Seattle WA 98115. . . .Instrument for implantation of a prosthesis in a stapedectomy procedure (5,171,240/15), to Yuthaphong Hanwong, Dept. of ENT, Chulalongkorn Hospital, Bangkok Thailand.

Offerings. . .

HealthTrust offers \$300 million aggregate principal amount of its 8-3/4 percent subordinated debentures due 2005. Donaldson, Lufkin & Jenrette Securities and Merrill Lynch and Bear, Stearns will manage the offering; proceeds will go to reduce indebtedness. . . .ReSound completes an IPO of 2.5 million common shares priced at \$8.50 per share. Managed by Montgomery Securities, Furman Selz, and Volpe, Welty, proceeds will be used for R&D, among other things. . . .United Wisconsin Services files with the SEC to offer 2.32 million common shares, one million of which will be offered by the company, one million to be offered by Blue Cross and Blue Shield of Wisconsin, and the rest to be offered by United Wisconsin Services Foundation. Generated proceeds will go to potential growth and acquisitions; co-managers include Donaldson, Lufkin & Jenrette Securities, Dean Witter Reynolds, Dain Bosworth, and Robert W. Baird.

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18/7/6 (Item 1 from file: 20)

DIALOG(R)File 20:World Reporter

(c) 2001 The Dialog Corporation. All rts. reserv.

08724204 (THIS IS THE FULLTEXT)

Electronics Times: Disposable medical sensor line in sets

ELECTRONICS TIMES, p56

December 06, 1999

Strain Measurement Devices has launched a line of standard and custom sensors for medical OEMs. Products include load cells, custom scale assemblies and sensors for non-invasive pressure and flow measurement in disposable sets.

Sub-assemblies can include sophisticated signal processing circuitry with digital or analogue outputs. Applications include infusion pumps, codynamometers, bag and bottle flow and weight sensors, medical scales and sensors for orthopedics and physical therapy.

The sensors measure pressure non-invasively in disposable sets. Scale platforms are used to measure weight and/or flow in bags and bottles. Custom implantable strain sensors have been permanently installed in prostheses.

Strain Measurement Devices

Tel: +1 203 235 9330

Fax: +1 203 235 3470

Enquiry Number 586

Copyright 1999 Electronics Times. Source: World Reporter (Trade Mark)

- FT McCarthy.

18/3,AB/2 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2001 The Gale Group. All rts. reserv.
03955034 Supplier Number: 45728985
Ein neues System soll Chirurgen erm glichen,/
Blick durch die Wirtschaft, p10
August 14, 1995

Language: English Record Type: Abstract

Document Type: Newsletter; Trade

ABSTRACT:

A new computer simulation system has been developed in Germany to facilitate the planning of medical surgery. A flexible camera system produces 3-dimensional images of the area to be operated on. The sensor system is based on X-ray image intensifier. Due to the less invasive operating method, the risks of operation are reduced and the period of recovery is shortened. The system may be used also in actual surgery in future. Further applications are seen in the planning of radiation therapy on the basis of computer tomography data and of aspiration for tissue samples. The technology was developed by the Munich Polytechnic (institutes of machine tools, business economics and knowledge-based systems) and the Annastift orthopaedic hospital of the Medical University of Hanover.

18/3,K/4 (Item 4 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2001 The Gale Group. All rts. reserv.
02876378 Supplier Number: 43878057
SENSOR MARKETS AND TECHNOLOGIES UPDATE: TEKSCAN IS IN TOUCH WITH MAJOR
OPPORTUNITIES FOR TACTILE SENSORS
Sensor Business Digest, v2, n>9, pN/A
June, 1993
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 1658

... unobtrusive sensors also offer high uniformity and spatial accuracy at a low cost.

Tekscan's sensors are used by major corporations in the automotive, robotic, aerospace, orthopedic, surgical, and rehabilitative health fields for a wide range of applications--including the sensing of: tooth pressure; foot...

...pressure; tire tread pressure; and wheelchair and hospital bed pressure. The price of a Tekscan sensor ranges from about \$5 for high-volume (dental) applications to \$250 for the seat pressure...

File 350:Derwent WPIX 1963-2000/UD,UM &UP=200110
 File 344:CHINESE PATENTS ABS APR 1985-2001/Feb
 File 347:JAPIO Oct 1976-2000/Jul(UPDATED 001114)
 File 371:French Patents 1961-2000/BOPI 0052

Set	Items	Description
S1	20126	EXERCIS?
S2	2469	REHABILITAT?
S3	66617	THERAP?
S4	97125	COORDINAT?
S5	17	NEUROMOTOR
S6	247930	JOINT OR LIMB
S7	627101	SENSOR OR SENSORS
S8	2570	ORTHOS?
S9	577	ORTHOTIC?
S10	12288	ORTHOP?
S11	1694087	POSITION
S12	82425	STRAIN
S13	20	S1:S3 AND S7 AND S8:S10
S14	20	IDPAT (sorted in duplicate/non-duplicate order)
S15	20	IDPAT (primary/non-duplicate records only)
S16	4	S11()S7 AND S12()S7
S17	0	S1:S3 AND S16
S18	4	S16 NOT S13
S19	108	S1:S3 AND S4:S6 AND S7
S20	6	S19 AND S8:S10
S21	0	S20 NOT S13

15/TI/2 (Item 2 from file: 350)
 DIALOG(R)File 350:(c) 2001 Derwent Info Ltd. All rts. reserv.
 Device to treat biological tissue with pulsed electromagnetic field; has coil to generate pulsed electromagnetic field and pulse generator to control coil, to produce field comprising single pulses of defined amplitude

15/TI/5 (Item 5 from file: 350)
 DIALOG(R)File 350:(c) 2001 Derwent Info Ltd. All rts. reserv.
 Brace with pressure sensors for monitoring effect on orthosis - has frame with connecting straps holding bladders enclosing pressures sensors connected to microprocessor to monitor and alarm

15/TI/6 (Item 6 from file: 350)
 DIALOG(R)File 350:(c) 2001 Derwent Info Ltd. All rts. reserv.
 Durable fibre optic hydrophone with small angle of contact, reducing risk of signal failure - is treated with hydrophilic solution, especially amino-silane, on end immersed in liquid medium, useful for measuring pressure amplitude e.g. of pressure pulse waves used in lithotripsy

15/TI/7 (Item 7 from file: 350)
 DIALOG(R)File 350:(c) 2001 Derwent Info Ltd. All rts. reserv.
 Medical supervision system - includes sensors for detection of bio-medical signals, memory for information from signals, memory for predetermined information pattern, and comparator for comparison of memories

15/TI/11 (Item 11 from file: 350)
 DIALOG(R)File 350:(c) 2001 Derwent Info Ltd. All rts. reserv.
 Multi-axis spring for force platform - uses deflectable beams produced by slot pattern to elastically couple interior region of spring to outer region and magnetic sensors within interior region for sensing loads

15/TI/13 (Item 13 from file: 350)
DIALOG(R)File 350:(c) 2001 Derwent Info Ltd. All rts. reserv.
Frame for correcting posture of spine in three dimensional space - uses sensors to provide data on weight distribution and computer to control traction loading to determine correct posture

15/TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:(c) 2001 Derwent Info Ltd. All rts. reserv.
Orthopaedic restraining device and method of use - having ambulatory housing with restraining device to restrain movement of proximal and distal ends and this is in form of bar

15/TI/19 (Item 19 from file: 350)
DIALOG(R)File 350:(c) 2001 Derwent Info Ltd. All rts. reserv.
Determining individual lower limb prosthesis assembly circuit - by determining mean torque during prosthesis fitting controlled turning and bending before parameter correction

15/TI/20 (Item 20 from file: 347)
DIALOG(R)File 347:(c) 2000 JPO & JAPIO. All rts. reserv.
LOW FREQUENCY THERAPEUTIC DEVICE

15/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2001 Derwent Info Ltd. All rts. reserv.
013156775 **Image available**
WPI Acc No: 2000-328647/200028
Motion processing system has motion platform device connected to processor, which outputs control demand to motion platform
Patent Assignee: MOTEK MOTION TECHNOLOGY INC (MOTE-N)
Inventor: EVEN-ZOHAR O
Number of Countries: 089 Number of Patents: 002
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
WO 200017767 A1 20000330 WO 99US21246 A 19990922 200028 B
AU 9962498 A 20000410 AU 9962498 A 19990922 200035
Priority Applications (No Type Date): US 99116506 A 19990120; NL 981010150
A 19980922; EP 98204334 A 19981221

Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 200017767 A1 E 47 G06F-015/00
Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN
CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG
SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
AU 9962498 A G06F-015/00 Based on patent WO 200017767

Abstract (Basic): WO 200017767 A1

NOVELTY - A motion capture device provides motion capture data to a processor which are processed faster than real-time. A motion platform device provides motion platform data to the processor and are also processed faster than real-time and it outputs control command to motion platform device. The motion processing system is also interfaced with run-time control input.

DETAILED DESCRIPTION - The motion sensor which provides motion

capture data are optical (20), magnetic (30) and opto-magnetic. A display unit connected to processor, displays virtual environment to user. The motion capture and motion platform data are stored in a memory. INDEPENDENT CLAIMS are also included for the following:

- (a) virtual and physical environment process;
- (b) simulation recording system;
- (c) system for dynamic registration;
- (d) evaluation and correction of functional human behavior

USE - For use in military applications, aviation and space research, automotive, robotics and telemetry, architecture.

ADVANTAGE - Provides precisely repeatable measurements and also monitors progress of patient by comparing recorded motions from different time intervals. Offers library of standard or reference motions that can be used to highlight problem areas. Increases training efficiency and improves military readiness using virtual reality environment. Monitors ground reaction to forces in earthquake sensitive buildings. Since the system enhance and improve entertainment simulations, by providing cost effective and more realistic simulation, generation time for simulations is reduced from months to minutes. Since the system employs faster run time editing, simulation is more realistic. Since the system records and displays in real time, the spatial trajectories of driver movements and creates a 3D database of these movements, data relating to better ergonomic prototyping and design of driving environment is generated. Since the rehabilitation time of the patients is reduced, cost and length of treatment is reduced, which assists and improves the quality of life of patients. Since the system is useful for the victims of traumatic brain injury, cerebral damage and spinal damage, the body can be retrained to make desired movement. Training and improvement in movements is also provided for the patients of orthopedics and prosthetics. A patient suffering from stabilization disease such as Parkinson's are made to stand still using the system. Motion sickness and other motion disorders are also treated by replicating the conditions and allowing the patient to adjust to the motion. Since the development project of the system called Computer Assisted Rehabilitation Environment (CAREN) is operated in real-time domain, development of virtual reality system in which balance behavior of humans are tested in a variety of reproducible conditions.

DESCRIPTION OF DRAWING(S) - The figure shows basic relationship between motion platform, motion capture systems, and computer.

Optical sensor (20)

Magnetic sensor (30)

pp; 47 DwgNo 1/9

Derwent Class: P85; S02; S05; T01; W04; W06; W07

International Patent Class (Main): G06F-015/00

International Patent Class (Additional): G09B-005/08

15/7/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

012615679 **Image available**

WPI Acc No: 1999-421783/199936

Muscle exercising machine for training and/or rehabilitation

Patent Assignee: FORMULA GYM SARL (FORM-N)

Inventor: ANDRE L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No Kind Date Applicat No Kind Date Week
FR 2770784 A1 19990514 FR 9714100 A 19971110 199936 B
Priority Applications (No Type Date): FR 9714100 A 19971110

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
FR 2770784 A1 30 A63B-021/00

Abstract (Basic): FR 2770784 A1

NOVELTY - The bench (10) supports a bar (11) to which the subject's upper arm (B) is adjustably strapped (13,130) while his/her forearm (AB) is similarly attached (14,140) to a second bar (12), pivoted (15) on the first. A hand-grip (17), pivoted (16) on the second bar is rotatable (f2) by the subject's hand (M) about an axis parallel to the forearm, while the axis of the first-named pivot (15), near the subject's elbow, allows rotation (f1) in the plane of arm and forearm. Both articulations provide variable resisting bi-directional torque, preferably by means, e.g. hydraulic, independent of external energy sources.

DETAILED DESCRIPTION - By duplicating the device described, the bench simultaneously caters for both arms, using a common elbow pivot, torque for which is opt. obtained from a crank-connected hydraulic cylinder. Further extension of the facilities, e.g. to trunk and legs, by elaborating the machine on the same general lines, is also described, together with supervisory and recording facilities based on sensor inputs to a display panel, opt., with analyzing PC.

USE - Sports training, orthopedic rehabilitation .

ADVANTAGE - Controlled exercising , with several degrees of freedom at joints.

DESCRIPTION OF DRAWING(S) - The drawing is a sketch of a typical application to one arm.

bench, (10)
limb bars, (11,12)
limb straps, (13,14)
pivots, (15,16)
hand lever, (17)
clamps. (130,140,160)
pp; 30 DwgNo 1/7

Derwent Class: P36; S05; W04

International Patent Class (Main): A63B-021/00

15/7/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2001 Derwent Info Ltd. All rts. reserv.
012489379 **Image available**
WPI Acc No: 1999-295487/199925

Drive controller for orthopedic treatment tool - measures load on patient's body based on which reverse drive signal is generated to halt movement of mechanism

Patent Assignee: YASKAWA ELECTRIC CORP (YASW)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No Kind Date Applicat No Kind Date Week
JP 11099186 A 19990413 JP 97264653 A 19970929 199925 B
Priority Applications (No Type Date): JP 97264653 A 19970929

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 11099186 A 6 A61H-001/02

Abstract (Basic): JP 11099186 A

NOVELTY - The drive unit drives the patient's body (101) along the specific track and has link mechanisms (106,108) of two directional degree of movement freedom. Load on patient's body is measured by a load sensor unit (104), based on which a reverse drive signal is generated by operating manual switch (115). The drive unit runs in the reverse direction so as to halt the movement of links.

USE - For physiotheroptical treatment used in orthopenolics , joint exercises , joint tissue recoverability exercise .

ADVANTAGE - Prevents application of overload to joint tissues even for a mechanism having degree of movement freedom equal to two.

DESCRIPTION OF DRAWING(S) - The diagram explains the operation drive unit and the controller. (101) Patient's body; (104) Load sensor unit; (106,108) Link mechanisms; (115) Manual switch.

Dwg.1/2

Derwent Class: P33; P36; P62; S05

International Patent Class (Main): A61H-001/02

International Patent Class (Additional): A63B-021/00; B25J-013/04; B25J-013/08

15/7/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

011645672 **Image available**

WPI Acc No: 1998-062580/199806

Body movement monitor for e.g. limb articulation and breathing based on resilient optical fibre unit - has attachments holding ends of unit to parts moving relatively, with optical transmitter and receiver, used in therapeutic, recreational and medical measurements

Patent Assignee: LOCKHEED MARTIN ENERGY SYSTEMS INC (LOCK)

Inventor: ALLISON S W; MUHS J D

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5701370	A	19971223	US 95514454	A	19950811	199806 B
			US 96767697	A	19961217	

Priority Applications (No Type Date): US 95514454 A 19950811; US 96767697 A 19961217

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5701370	A		9	G02B-006/00	Cont of application US 95514454

Abstract (Basic): US 5701370 A

This original fibre optic device monitors body movements. It spans moveable body parts, end portions of its articulated base remaining fixed. The optical fibre unit (50) is formed of elastomeric materials, its ends attached to the base (32, 34) ends. The central portion lies over the moveable central portion of the base. Movement of the body parts deforms the central portion of the fibre unit accordingly. A light transmitter (61) is coupled to one end of the optical fibre unit, a receiver (62) to the other. Light reception is proportional to the deformation, and hence to the movement of the body parts.

Preferably core and/or cladding of the optical fibre unit comprise silicone rubber. Preferred versions are described with attachments suitable for measuring limb articulation, and for measuring movement caused by expansion and contraction of the chest.

USE - To measure body joint movement and breathing.

ADVANTAGE - The device permits monitoring of joint articulation and chest expansion with respect to time. It becomes possible to make these measurements in medical and exercise regimes. Orthopaedic

rehabilitation of e.g. knee, elbow, hip, neck, back, wrist, finger joints and jaw can be monitored, together with associated breathing rates. Apart from simplicity and reliability, a strong advantage is immunity of the sensor from electromagnetic interference.

Dwg.1/5

Derwent Class: A89; P81; V07

International Patent Class (Main): G02B-006/00

15/7/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

011426276 **Image available**

WPI Acc No: 1997-404183/199738

Sensor arrangement for measurement of pressure exerted on area of human body - has evaluation and/or display circuitry which delivers acoustic and/or optical signal if pressure on sensor exceeds predetermined or preselected threshold value

Patent Assignee: ROTHBALLER J (ROTH-I)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 29706591	U1	19970814	DE 97U2006591	U	19970412	199738 B

Priority Applications (No Type Date): DE 97U2006591 U 19970412

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 29706591	U1		9		

Abstract (Basic): DE 29706591 U

The sensor arrangement includes an electric pressure sensor (1) which includes at least one active element (4) densely shrink-wrapped in a foil (2, 3), and which produces an electric signal dependent on the exercised pressure. An evaluation- and/or display circuitry (6) is connected with the pressure sensor to deliver an acoustic and/or optical signal if the pressure exercised on the pressure sensor exceeds a predetermined or preselected threshold value, and/or to display the pressure exercised on the pressure sensor .

The active element is preferably a pressure-sensitive resistance. The evaluation and/or display circuitry includes an adjustment element, such as a potentiometer (9), for adjusting the threshold value.

USE - In medical application, especially orthopaedic treatment.

ADVANTAGE - Provides optimal supervision of pressure on body part.

Dwg.2/2

Derwent Class: P31; S02; S05; W05

International Patent Class (Main): G01L-009/02

International Patent Class (Additional): A61B-005/107; G01D-001/18; G01D-007/12

15/7/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011033868 **Image available**

WPI Acc No: 1997-011792/199701

Monitored orthopaedic treatment device - has portable programmable control unit to control and monitor operation of two functionally distinct orthopaedic treatments

Patent Assignee: STARK J G (STAR-I)

Inventor: STARK J G

Number of Countries: 019 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9636278	A1	19961121	WO 96US7047	A	19960516	199701 B
JP 11505161	W	19990518	JP 96535054	A	19960516	199930
			WO 96US7047	A	19960516	
EP 957762	A1	19991124	EP 96920238	A	19960516	199954
			WO 96US7047	A	19960516	

Priority Applications (No Type Date): US 95442945 A 19950517

Cited Patents: Jnl.Ref; US 4586495; US 4825852; US 4863157; US 4934694; US 5003965; US 5012820; US 5181902; US 5368546

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 9636278	A1	E	61 A61B-005/11	

Designated States (National): CA JP

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

JP 11505161 W 57 A61N-001/00 Based on patent WO 9636278

EP 957762 A1 E A61B-005/11 Based on patent WO 9636278

Designated States (Regional): DE ES FR GB IT

Abstract (Basic): WO 9636278 A

The orthopaedic device comprises two functionally distinct orthopaedic treatments selected from the group consisting of one exercise treatment with one energy propagating transducer based treatment structure, two functionally distinct energy propagating transducer based orthopaedic treatment structures and one monitored resistive non-isometric exercise with one monitored isometric exercise. These distinct treatments will be controlled and monitored by a portable, programmable control unit (106). Pref. the orthopaedic device includes a support structure (108) or brace for restraining flexibly connected body portions of an individual, that is required for the exercise treatments.

Energy propagating transducer based treatments structures include ultrasonic transducer (124), pulsed electromagnetic field transducer (126), implantable electrical current transducer (128) and surface contact electrical current transducer (130) for bone healing stimulation, and electrical muscle contraction stimulator (132). Pref. the monitored isometric exercise comprises at least one stress sensor (122) for sensing stress on the support structure and supplying an output signal to the control unit.

ADVANTAGE - Integrates control of each of selected treatments to optimize treatment results.

Dwg.2/26

Derwent Class: P31; P33; P34; P36; S05

International Patent Class (Main): A61B-005/11; A61N-001/00

International Patent Class (Additional): A61B-017/56; A61H-001/02; A63B-021/00

15/7/12 (Item 12 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

009650988 **Image available**

WPI Acc No: 1993-344538/199343

Orthopaedic weight monitor for detecting weight bearing forces on lower extremity e.g. foot - has sensor encased within heel of flexible pad shaped to fit inside shoe and remote module receiving signals from sensor

Patent Assignee: THOMAS B R (THOM-I)

Inventor: ALLEY S D; STEINMAN H; THOMAS B R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5253654	A	19931019	US 92876481	A	19920430	199343 B

Priority Applications (No Type Date): US 92876481 A 19920430

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5253654	A	15	A61B-005/103	

Abstract (Basic): US 5253654 A

The orthopaedic weight monitor includes a flexible pad shaped for conforming to the bottom of a foot for placement inside of a shoe, cast or splint. The pad has a heel portion positionable beneath the heel of a user. A sensor is encased within the heel portion of the pad to be located beneath the heel of the user and comprises a thin, rigid rectangular plate having a foil strain gauge coupled beneath.

An electronic module is remotely positioned from the sensor to receive signals from the foil sensor and an electrical line extends to the exterior of the flexible pad between the foil strain gauge and the electronic module.

USE/ADVANTAGE - Detection and monitoring weight bearing on lower extremity e.g. leg, hip or foot for use in rehabilitation training and therapy . Indicates time and duration of pressure which exceeds and/or complies with physicians recommendations.

Dwg.2/9

Derwent Class: P31; S02; S05

International Patent Class (Main): A61B-005/103

15/7/14 (Item 14 from file: 350)

DIALOG(R) File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

009423690 **Image available**

WPI Acc No: 1993-117206/199314

Universal controller for continuous passive motion devices for rehabilitation equipment - has sensors within each CPM device passing instantaneous state data to microprocessor controlling operation

Patent Assignee: JACE SYSTEMS INC (JACE-N)

Inventor: TELEPKO G

Number of Countries: 036 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9305748	A1	19930401	WO 92US5719	A	19920708	199314 B
AU 9223652	A	19930427	AU 9223652	A	19920708	199332
			WO 92US5719	A	19920708	
US 5255188	A	19931019	US 91760424	A	19910916	199343

Priority Applications (No Type Date): US 91760424 A 19910916

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 9305748	A1 E	52	A61H-001/02	

Designated States (National): AU BB BG BR CA CS FI HU JP KP KR LK MG MN MW NO PL RO RU SD

Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU MC NL OA SE

AU 9223652 A Based on patent WO 9305748

US 5255188 A 21

Abstract (Basic): WO 9305748 A

The universal controller has an input device within a control panel providing input parameters to define limits and modes of operation for

a particular continuous passive motion device (CPM). The received parameters are processed and used to control device operation. A sensor determines the instantaneous state of the CPM and also its specific type.

CPM operating parameters are stored in the controller. A timer is included in the controller. A display on the panel indicates operation status and shows any faults.

USE - For rehabilitation treatment of injuries or as part of post-operative recovery plan, compatible with various types of orthosis devices e.g. hand and toe.

Dwg.1/13

Abstract (Equivalent): US 5255188 A

The controller for controlling a number of types of continuous passive motion (CPM) devices includes a control panel. Input keys are located within the control panel and provide input parameters which define the limits of operation and modes of operation for a particular CPM device.

A microprocessor processes the received input parameters and controls the operation of the particular type of CPM device. Sensors located within the CPM device determine the instantaneous state of the particular CPM device and determine the specific type of CPM device. CPM operating parameters associated with the particular CPM device are stored within a data retention area of the microprocessor. A timer determines time measurements for time dependent calculations.

USE/ADVANTAGE - As control appts for passive motion device. Provision for detecting faults, which occur during operation.

Dwg.1/13

Derwent Class: P33; S05

International Patent Class (Main): A61H-001/02

15/7/15 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009055433 **Image available**

WPI Acc No: 1992-182820/199222

Biofeedback activated orthosis for foot-drop rehabilitation - has mechanical foot lifting device, muscle activity sensor, controller and electrogoniometer for detecting angle between thigh and shin

Patent Assignee: UNIV LOUISIANA STATE (LOUU)

Inventor: BANNER V M; BEARD J; KHAN M; LEONARD N J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5112296	A	19920512	US 91693816	A	19910430	199222 B

Priority Applications (No Type Date): US 91693816 A 19910430

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5112296	A	13	A61F-005/00		

US 5112296 A 13 A61F-005/00

Abstract (Basic): US 5112296 A

The biofeedback activated orthosis includes a lifting mechanism, a control circuit, a muscle activity sensing mechanism, and an electrogoniometer. The lifting mechanism lifts a foot through the swing phase of a gait cycle by way of a drive motor mechanism which pulls a cable passing between a foot brace and a shin brace. The drive motor mechanism allows the cable to unwind upon heel-strike by way of a slip coupling. The drive motor mechanism is controlled by a control circuit which assimilates and processes an incoming electromyographic (EMG)

signal from the muscle activity sensing mechanism detected by EMG electrodes placed on the skin above the dorsiflexor muscles of the user.

The control circuit also processes a leg position information signal obtained by a radial resistor attached to a knee brace strapped to the knee for sensing the angular position of the lower leg. Activation of the drive motor mechanism will not occur until both processed signals exceed their respective threshold levels set in advance by the user.

USE/ADVANTAGE - Treating persons suffering from multiple sclerosis, traumatic injury or other diseases involves neuromuscular damage. Allows control of input by user depending on user's strength and mobility.

Dwg.8/10

Derwent Class: P32; S05

International Patent Class (Main): A61F-005/00

15/7/17 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2001 Derwent Info Ltd. All rts. reserv.
008645432 **Image available**
WPI Acc No: 1991-149461/199121

Appts. for weight stress on bodily members - senses pressure and sets off an alarm if pressure value is exceeded

Patent Assignee: KONTUR GMBH (KONT-N)

Inventor: REITERBERG G

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3937277	A	19910516	DE 3937277	A	19891109	199121 B
DE 3937277	C	19910905				199136

Priority Applications (No Type Date): DE 3937277 A 19891109

Abstract (Basic): DE 3937277 A

The apparatus comprises a pressure sensor mounted on the body in question which works in conjunction with an evaluation and an alarm circuit to give an alarm signal when a preset pressure is exceeded. The sensor comprises a flexible part (32) which holds two contacts (34), (38) apart, at a set pressure, determined by an adjustable screw (38). The contacts connect to an evaluation circuit with a transmitter and battery, while a second circuit comprising a receiver, alarm and battery is carried on the body.

USE/ADVANTAGE - Permits therapy /convalescence stress control without cables or environmental disadvantages. (6pp Dwg.No.6/6)

Abstract (Equivalent): DE 3937277 C

A first package of circuits has pressure measuring equipment, a unit for producing electrical signals, a transmitter. A second package has a receiver. The signals are fed to the receiver and give a warning signal when the exceed a set value. The first package is arranged between layers of plastic material stuck or bonded together.

The first package is made as a lining (30) in the sole of a shoe and the layers include upper (31), intermediate (32) and lower (33) parts, the intermediate layer being elastic. In the upper part a first device (10) has an evaluating unit connected to a power source and a transmitter connected to the source and the evaluating unit.

USE/ADVANTAGE - Absence of cables connected to body and clothing and equipment which is concealed and shielded from interference and damage. Comfortable. Suitable for medical clinics and hospitals, partic. in orthopaedics .

Derwent Class: P21; P31; P81; S02; S05; W05

International Patent Class (Additional): A41D-013/12; A61B-005/10;
G01L-005/00; G02C-011/00; G08B-007/06; H01H-001/24; H01H-013/54

15/7/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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007175117

WPI Acc No: 1987-172126/198725

Automatic treadmill for running or orthopaedic training - has slope
adjuster microprocessor inputting control data and sensors and
controller to detect and output exercise data

Patent Assignee: IND TECHN RES INST (INTE-N)

Inventor: SHYU J M

Number of Countries: 005 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2184361	A	19870624	GB 8531463	A	19851220	198725 B
DE 3601054	A	19870730	DE 3601054	A	19860116	198731
FR 2592803	A	19870717				198735
US 4708337	A	19871124	US 85813655	A	19851226	198749
GB 2184361	B	19891011				198941
KR 9006049	B	19900820				199143 N

Priority Applications (No Type Date): GB 8531463 A 19851220; DE 3601054 A
19860116; US 85813655 A 19851226

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 4708337	A	24		

Abstract (Basic): GB 2184361 A

The treadmill comprises a track mechanism (1) wherein the rotation speed of the tread bolt (12) is automatically controlled to suit the physical condition of the user. A slope adjuster (2) is associated with the track mechanism to enable the track mechanism to operate at a slope. The treadmill further comprises a controller (3) having a microprocessor formed for inputting control data, processing and recording operation status data, and outputting/displaying those stored data. Photo counters or limit switches used as sensors collect various exercise data such as speed, distance, slope, pulse rate, duration, etc.

The controller automatically enables the treadmill to operate in accordance with a pre-determined sequence of functions, and will, at the same time, store-display exercise data, such as the pulse rate, pace, number of steps taken, heat dissipated, etc.

ADVANTAGE - Variable speed, can record physical state of user

Abstract (Equivalent): GB 2184361 B

A treadmill having track means for rotating a rotatable belt for a user to stand upon, driving means with a power apparatus connected to said track means for driving said rotatable belt to rotate within a range of speeds ranging from zero to a predetermined maximum and slope adjusting means associated with said track means for inclining said track means comprising; a microprocessor controller having stored therein software programs corresponding to a function and a control-arrangement for the function, said controller further including data input means for inputting reference control data, data storage means for storing data, and display means for displaying data; and exercise data detecting means for sensing exercise data and inputting the same to said controller, said exercise data detecting means including means for detecting a user's position and means for

inputting data representative of the user's position relative to said controller for adaptively changing the speed of the rotatable belt to keep the user at a certain position on said track means, wherein said slope adjusting means is controlled responsive to said exercise data by said controller to change the slope of said track means, and said driving means is controlled by said controller responsive to said exercise data to vary the speed of rotation of said rotatable belt.

Abstract (Equivalent): US 4708337 A

The treadmill comprises a track mechanism where the rotational speed of the tread belt is automatically controlled to suit the physical condition of the user. A slope adjusting mechanism is associated with the track mechanism to enable the track mechanism to operate at a slope. A controller has a microprocessor formed for inputting control data, processing and recording operation status data, and outputting/displaying those stored data.

There are ports of sensors to collect various exercise data such as speed, distance, slope, pulse rate, duration, etc. The controller then enables the treadmill to operate in accordance with a predetermined sequence of functions and to adapt to the condition of the user, while at the same time the controller stores/displays exercise data, such as the pulse rate, pace, number of steps taken, heat dissipated, etc.

Derwent Class: P31; P36; S05; W04

International Patent Class (Additional): A61B-005/02; A63B-023/06

15/7/20 (Item 20 from file: 347).

DIALOG(R) File 347:JAPIO

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05045244 **Image available**

LOW FREQUENCY THERAPEUTIC DEVICE

PUB. NO.: 08-000744 [JP 8000744 A]

PUBLISHED: January 09, 1996 (19960109)

INVENTOR(s): SAIJO SHIZUKO

MIYABAYASHI TADAO

HONMA YUJI

APPLICANT(s): TEC CORP [000356] (A Japanese Company or Corporation), JP (Japan)

SAIJO SHIZUKO [000000] (An Individual), JP (Japan)

APPL. NO.: 06-144166 [JP 94144166]

FILED: June 27, 1994 (19940627)

ABSTRACT

PURPOSE: To provide a low frequency therapeutic device enabling effective treatment by actively utilizing an organismic function.

CONSTITUTION: Pulses with a frequency of 3-10Hz are applied dermally and subcutaneously so as to synchronize with the expiration timing detected by a sensor 21 to excite the parasympathetic nerve function. Since the parasympathetic nerve is synergistically excited by electrifying pulse at the expiration timing when the parasympathetic nerve is excited, it is effective for treatment of lowered physical performance due to fatigue, and the unstable conditions of autonomic nerve. Application of pulses with a frequency of 10-50Hz under electric muscular contraction synchronized with inspiration timing excites the sympathetic nerve function. Since the sympathetic nerve is synergistically excited by application of pulses at the inspiration timing when the sympathetic nerve is excited, it is effective for treatment at the paroxysmal time of bronchial asthma and the orthostatic disturbance.

18/26/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009423453 **Image available**

WPI Acc No: 1993-116968/199314

Magnet assembly for magnetostrictive position sensor having magnetostrictive wire - has two toroidal magnet sections positioned adjacent to each other and around magnetostrictive wire with radially disposed magnetic poles

18/6,TI/4 (Item 1 from file: 344)

DIALOG(R)File 344:(c) 2001 EUROPEAN PATENT OFFICE. All rts. reserv.

Acc no: 4046765

BY-PASS THROTTLE TYPE CONSTANT-SPEED LOADING, DISPLACEMENT AND STRAIN
CONTROL DEVICE

File 348:EUROPEAN PATENTS 1978-2000/Feb W02

File 349:PCT Fulltext 1983-2001/UB=20010215, UT=20010201

Set	Items	Description
S1	18644	EXERCIS?
S2	2095	REHABILITAT?
S3	100277	THERAP?
S4	62749	COORDINAT?
S5	41	NEUROMOTOR
S6	90958	JOINT OR LIMB
S7	137348	SENSOR OR SENSORS
S8	4095	ORTHOS?
S9	318	ORTHOTIC?
S10	16136	ORTHOP?
S11	11	S1:S3 AND S4 AND S5:S6 AND S7(S)S8:S10
S12	11	IDPAT (sorted in duplicate/non-duplicate order)
S13	11	IDPAT (primary/non-duplicate records only)
S14	14	S1:S3 AND S7(S)S8:S10 AND S7(5N)S8:S10
S15	8	S14 NOT S11
S16	8	IDPAT (sorted in duplicate/non-duplicate order)
S17	8	IDPAT (primary/non-duplicate records only)

13/TI/6 (Item 6 from file: 349)

DIALOG(R)File 349:(c) 2001 WIPO/MicroPat. All rts. reserv.

PROSTHETIC, ORTHOTIC, AND OTHER REHABILITATIVE ROBOTIC ASSISTIVE DEVICES
ACTUATED BY SMART MATERIALS

13/TI/9 (Item 9 from file: 349)

DIALOG(R)File 349:(c) 2001 WIPO/MicroPat. All rts. reserv.

FOOT ANALYZER

13/3,AB/1 (Item 1 from file: 349)

DIALOG(R)File 349:PCT Fulltext

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00765251

REHABILITATIVE ORTHOSES

ORTHESES DE REEDUCATION

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200078263 A2 20001228 (WO 0078263)

Application: WO 2000US16859 20000620 (PCT/WO US0016859)

Priority Application: US 99339071 19990623

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR

LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ

TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 17869
English Abstract

Instrumented orthoses (100, 700, 800) with more sophisticated structures provide for coordinated support and rehabilitation of complex joints a multiple injured joints. Improved instrumented orthoses can include hinges (510, 540) than can rotate in multiple different planes. Particularly preferred embodiments include a shoulder brace (700) with a hand hole (774) and a lower extremities brace (870). Preferably, a control unit (112, 716, 818) monitors the output of transducers (108, 110, 114, 116) used to instrument the brace. A patient can be prompted by the control unit for the performance of a variety of different monitored exercises.

13/3,AB/2 (Item 2 from file: 349)
DIALOG(R)File 349:PCT Fulltext
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00727524

REMOTE MONITORING OF AN INSTRUMENTED ORTHOSIS
COMMANDE A DISTANCE D'ORTHESE AVEC INSTRUMENTS

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200040171 A2 20000713 (WO 0040171)
Application: WO 99US31030 19991228 (PCT/WO US9931030)
Priority Application: US 99226866 19990107

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK
DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English
Filing Language: English
Fulltext Word Count: 6223
English Abstract

An instrumented orthosis (102) is interfaced to a telecommunication system (104) such that a patient and health care professional can exchange communications including the monitoring of the instrumented orthosis (102). Thus, a health care professional can evaluate rehabilitation treatments based on an instrumented orthosis (102) from a remote location while obtaining real-time feedback from the patient. The communications can include audio and/or video transmissions.

13/3,AB/3 (Item 3 from file: 349)
DIALOG(R)File 349:PCT Fulltext
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00725867

POSITION SENSING SYSTEM

SYSTEME DE DETECTION DE POSITION

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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AHN Samuel S, 256 South Beverly Glen, Los Angeles, CA 90024, US,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200038571 A1 20000706 (WO 0038571)
Application: WO 99US31271 19991230 (PCT/WO US9931271)
Priority Application: US 98114405 19981231

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 16789

English Abstract

An anatomical position sensing system (100) using one or more substantially spherical transponders for measuring relative positions and distances. A CPU (112) is controlled from an operator control panel (114) and interacts with an alarm (120) for providing audible alerts. The CPU (112) controls a broadband antenna (118) to transmit an RF power signal (122) having directional components (122a) and (122b) to energize the transponders (P) and (S). Once energized, transponder (P) transmits a range signal (124) to transponder (S). Upon receipt of the range signal (124), transponder (S) emits a data signal (126), which is directed at the antenna (118). The distance (D) is determined by measuring the attenuation of the range signal (124) as it is received by transponder (S). Transponder (S) then modulates the value of the strength of the incoming range signal (124) onto the data signal. The CPU (112) computes the distance (D) from the incoming data signal (126) from a lookup table derived from a sequence of calibration steps prior to beginning normal operation.

13/3,AB/4 (Item 4 from file: 349)

DIALOG(R)File 349:PCT Fulltext

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00725866

MINIATURE IMPLANTED ORTHOPEDIC SENSORS

MINI-DETECTEURS ORTHOPEDIQUES IMPLANTES

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200038570 A1 20000706 (WO 0038570)
Application: WO 99US31260 19991230 (PCT/WO US9931260)
Priority Application: US 98114400 19981231

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 19446

English Abstract

A substantially spherical semiconductor ball implanted in orthopedic structures for sensing and/or stimulation. In one embodiment, a vertebral column (800) having a number of intervertebral discs (802) interspersed among respective vertebral bodies (804), material placed in intervertebral discs (802) allows for a semi-synthetic vertebral disc (806) to be constructed. The artificial intervertebral disk (806) contains one or more ball sensors (808) located within the body of the disk (806) in order to monitor the compression forces. Conventionally, the semi-synthetic disc (806) is monitored only retrospectively, and visualized on x-ray. In this particular embodiment, any of a number of semi-synthetic intervertebral discs (806) can be implanted with one or more ball sensors (808) such that stress and compression forces can be monitored to assure proper alignment of vertebrae (810) in the vertebral column (800), and to monitor the development of any nonphysiologic forces due to vertebral degeneration, disk malfunction, and so on.

13/3,AB/5 (Item 5 from file: 349)

DIALOG(R)File 349:PCT Fulltext

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00718049

SPHERICALLY-SHAPED BIOMEDICAL IC
CIRCUIT INTEGRE BIOMEDICAL SPHERIQUE

Patent Applicant/Assignee:

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Patent Applicant/Inventor:

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982-0825, JP, JP (Residence), JP (Nationality), (Designated only for: US)
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GAFFNEY F Andrew, 6613 Chatsworth Place, Nashville, TN 37205-3955, US,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 200030534 A1 20000602 (WO 0030534)
Application: WO 99US27904 19991124 (PCT/WO US9927904)
Priority Application: US 98110107 19981125

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK

DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 27015

English Abstract

The present invention provides a biomedical semiconductor integrated circuit device that is spherical in shape (ball) for implantation in the biological medium (500) to be monitored or affected. The spherical-shaped IC (510) may include transducers (560) to perform a wide variety of instrumentation, monitoring and test or treatment regimes. The curvature of the semiconductor ball (510) allows for fabrication of more than one sensor on the ball to provide for three dimensional physiological parameter (515) monitoring. The ball (510) can be adapted to body tissue and/or tissue prosthetics, artificial organs, and biomedical implements by fixation, floatation or attachment to a catheter (505). More than one ball having one or more sensors can be used. Powering of the ball can be provided by electromagnetic coupling or on-board battery sourcing (battery ball).

13/3,AB/7 (Item 7 from file: 349)
DIALOG(R) File 349:PCT Fulltext
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00700726

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ORTHOSES FOR JOINT REHABILITATION

ORTHESE POUR REEDUCATION FONCTIONNELLE D'UNE ARTICULATION

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BOYD Joel L, 9571 Olympia Drive, Eden Prairie, MN 55347, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 0012041 A2 20000309 (WO 200012041)
Application: WO 99US19935 19990830 (PCT/WO US9919935)
Priority Application: US 9898779 19980901

Designated States: CA CN JP MX NO ZA AM AZ BY KG KZ MD RU TJ TM AT BE CH CY
DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Filing Language: English

Fulltext Word Count: 19516

English Abstract

Orthoses with microprocessor control placed around the joint of a patient are used to perform and to monitor isometric, range-of-motion, proprioception and isotonic exercises of the joint. A variety of improved hardware elements result in an orthosis that is easier to use and interacts more efficiently with the controller to allow the monitoring of a greater range of motions while holding down cost and provide suitable accurate evaluation of the exercises. Efficient ways of programming the exercises, monitoring the exercises and evaluating the exercise provide a comprehensive program for the rehabilitation of an injured or weakened joint.

13/3,AB/8 (Item 8 from file: 349)

DIALOG(R)File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00440719

AN ORTHOPEDIC DEVICE SUPPORTING TWO OR MORE TREATMENT SYSTEMS AND
ASSOCIATED METHODS

DISPOSITIF ORTHOPEDIQUE SUPPORTANT AU MOINS DEUX SYSTEMES DE TRAITEMENT ET
PROCEDES ASSOCIES

Patent Applicant/Assignee:

STARK John G

Inventor(s):

STARK John G

Patent and Priority Information (Country, Number, Date):

Patent: WO 9636278 A1 19961121
Application: WO 96US7047 19960516 (PCT/WO US9607047)
Priority Application: US 95442945 19950517

Designated States: CA JP AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 12634

English Abstract

An orthopedic restraining device (100) controls and monitors two functionally distinct orthopedic treatments through a portable, programmable control unit (106). The functionally distinct treatments are selected from exercise based treatments and treatments based on energy propagating transducers. The exercise based treatment structures can be isometric exercise structures or non-isometric based treatment structures. The energy propagating transducer based treatment structures include ultrasonic transducer based treatment structures, pulsed electromagnetic treatment structures, and electrical conduction based

treatment structures. An alternative device incorporates a hinge (116) on a support structure (108) for non-isometric exercise where the resistance or range in the hinge (116) can be controlled by electrical signals from a control unit (106). The invention gives a physician the power to design an entire treatment program for a patient using a variety of treatment methods coordinated and monitored through a control unit. The invention integrates the control of each of the selected treatments to optimize treatment results.

13/3,AB/10 (Item 10 from file: 349)
DIALOG(R)File 349:PCT Fulltext
(c) 2001 WIPO/MicroPat. All rts. reserv.
00354931

SYSTEM FOR CONTINUOUSLY MEASURING FORCES APPLIED BY THE FOOT
SYSTEME DE MESURE CONTINUE DE FORCES EXERCEES PAR LE PIED

Patent Applicant/Assignee:

FULLEN SYSTEMS INC

FULLEN George

FULLEN Jeryl G

Inventor(s):

FULLEN George

FULLEN Jeryl G

Patent and Priority Information (Country, Number, Date):

Patent: WO 9415530 A1 19940721

Application: WO 94US536 19940114 (PCT/WO US9400536)

Priority Application: US 934732 19930114

Designated States: AU JP US AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Fulltext Word Count: 8955

English Abstract

A self-contained system for measuring forces applied by the foot of a user includes a force sensor array (100) positioned within the user's shoe (10) between the foot and the inner sole of the shoe, the force sensor array including a multiplicity of individual force sensors (123) arranged in a pattern that covers the area of contact between the sole of the user's foot and the inner sole of the shoe, an electronic circuit module (500) removably attached to the side of the shoe, and a flat interconnecting cable (102) for electrically coupling the force sensor array to the electronic circuit module. An annunciator (270) audibly signals the user when a force on the foot greater than a predetermined threshold force is sensed.

13/3,AB/11 (Item 11 from file: 349)
DIALOG(R)File 349:PCT Fulltext
(c) 2001 WIPO/MicroPat. All rts. reserv.
00319026

UNIVERSAL CONTROLLER FOR CONTINUOUS PASSIVE MOTION DEVICES

UNITE DE COMMANDE UNIVERSELLE POUR DISPOSITIFS DE MOBILITE PASSIVE CONTINUE

Patent Applicant/Assignee:

JACE SYSTEMS INC

Inventor(s):

TELEPKO George

Patent and Priority Information (Country, Number, Date):

Patent: WO 9305748 A1 19930401

Application: WO 92US5719 19920708 (PCT/WO US9205719)

Priority Application: US 91760424 19910916

Designated States: AU BB BG BR CA CS FI HU JP KP KR LK MG MN MW NO PL RO RU

SD AT BE CH DE FR GB GR IT LU MC NL SE BF BJ CF CG CI CM GA GN ML MR SN
TD TG

Publication Language: English

Fulltext Word Count: 10710

English Abstract

A universal controller (10) for controlling a plurality of types of continuous passive motion (CPM) devices includes a control panel (14). Input keys (24) are located within the control panel (14) and provide input parameters which define the limits of operation and modes of operation for a particular CPM device. A microprocessor processes the received input parameters and controls the operation of the particular type of CPM device. Sensors located within the CPM device determine the instantaneous state of the particular CPM device and determine the specific type of CPM device. CPM operating parameters associated with the particular CPM device are stored within a data retention area of the microprocessor. A timer determines time measurements for time dependent calculations.

17/TI/1 (Item 1 from file: 348)

DIALOG(R)File 348:(c) 2001 European Patent Office. All rts. reserv.

Abduction splint for the shoulder and arm

17/TI/3 (Item 3 from file: 349)

DIALOG(R)File 349:(c) 2001 WIPO/MicroPat. All rts. reserv.

RADIATION DOSIMETRY SYSTEM

17/TI/5 (Item 5 from file: 349)

DIALOG(R)File 349:(c) 2001 WIPO/MicroPat. All rts. reserv.

CRANIAL REMODELING HEADPIECE

17/TI/7 (Item 7 from file: 349)

DIALOG(R)File 349:(c) 2001 WIPO/MicroPat. All rts. reserv.

HUMAN CALCIUM SENSOR PROTEIN, FRAGMENTS THEREOF AND DNA ENCODING SAME

17/TI/8 (Item 8 from file: 349)

DIALOG(R)File 349:(c) 2001 WIPO/MicroPat. All rts. reserv.

ORTHOPEDIC RESTRAINING DEVICE AND METHOD OF USE

17/3,AB/2 (Item 2 from file: 349)

DIALOG(R)File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00763407

SYSTEM FOR ORTHOPEDIC TREATMENT PROTOCOL

SYSTEME DESTINE AU PROTOCOLE DE TRAITEMENT ORTHOPEDIQUE

Patent Applicant/Assignee:

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200076416 A1 20001221 (WO 0076416)
Application: WO 2000US15888 20000609 (PCT/WO US0015888)
Priority Application: US 99329880 19990611

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK
DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ
TM TR TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 8408

English Abstract

A process for treating orthopedic injuries including the steps of presenting a set of treatment protocols; approving a treatment protocol from among the presented set of treatment protocols; capturing information identifying the approved treatment protocol from among the set of presented protocols; and generating information from the captured information into a form compatible with a handheld computer (20) adapted for connection to an orthopedic sensor system (22). The generated information includes parameters of the identified approved treatment protocol. The process may also include the steps of basing the presented set of treatment protocols upon a data base of historic patients, orthopedic injuries treatment protocols and outcomes, and retaining information about the current patient, the patients injury, treatment protocol and outcome. A system for treating orthopedic injuries with a historic database on a central computer (2) and a handheld computer (20) attached to a sensor system (22). The handheld computer (20) has formatted treatment protocol parameters originating in the historic database and mediates treatment of the orthopedic injury.

17/3,AB/4 (Item 4 from file: 349)
DIALOG(R)File 349:PCT Fulltext
(c) 2001 WIPO/MicroPat. All rts. reserv.
00597201

ORTHOSSES

ORTHESES

Patent Applicant/Assignee:

IZEX TECHNOLOGIES INC, Suite 223, 5905 Golden Valley Road, Golden Valley, MN 55422, US

Inventor(s):

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OYEN Duane P, 7347 Orchid Lane, Maple Grove, MN 55311, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 9842257 A1 19981001

Application: WO 98US5600 19980323 (PCT/WO US9805600)

Priority Application: US 97824065 19970324

Designated States: CA JP US AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Filing Language: English

Fulltext Word Count: 9480

English Abstract

Exercise orthoses are described that include a frame (105, 218, 306, 308, 406, 408, 502, 504), a fluid bladder (114, 130, 150, 206, 350, 352, 354, 430, 432, 434, 508) held by the frame, a pressure sensor (122, 144, 160, 208, 356,

436, 438, 440, 514) attached to the fluid bladder, and a microprocessor receiving the pressure measurements. The microprocessor monitors variations in pressure, determines differences between the measured pressures, and predetermined target values. The frame can be designed to support a hinge joint (102, 132, 152) or at least one vertebra. Furthermore, corrective back orthoses are described that include a frame (218, 306, 308, 406, 408, 502, 504), force applicators (206, 350, 352, 354, 430, 432, 434, 508) connected to the frame to apply force to the patient's spine, a sensor (208, 356, 436, 438, 440, 514) that measures forces associated with the force applicators, and a control unit (210, 358, 442, 516) that monitors forces measured by the sensor. The corrective back orthosis can include fluid bladders as force applicators. The control unit can include a microprocessor.

17/3,AB/6 (Item 6 from file: 349)

DIALOG(R)File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00555968

PACEMAKER WITH STAIR CLIMBING DISCRIMINATION

STIMULATEUR CARDIAQUE CAPABLE DE DISTINGUER LORSQUE LE PORTEUR MONTE DES ESCALIERS

Patent Applicant/Assignee:

MEDTRONIC INC, 7000 Central Avenue Northeast, Minneapolis, MN 55432 , US

Inventor(s):

SHELDON Todd J, 38 East Pleasant Lake Road, Eagan, MN 55123 , US

Patent and Priority Information (Country, Number, Date):

Patent: WO 9800197 A1 19980108

Application: WO 97US10475 19970617 (PCT/WO US9710475)

Priority Application: US 96668524 19960628

Designated States: AU CA JP AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Filing Language: English

Fulltext Word Count: 12019

English Abstract

A method of and apparatus for pacing a patient's heart at a pacing rate dependent on patient activity and posture particularly during stair climbing. A dual chamber, rate responsive pacemaker for pacing a patient's heart includes at least one DC accelerometer mounted in the pacemaker pulse generator for implantation such that the sensitive axis of the DC accelerometer is sensitive to the effects of gravity during forward lean of the patient characteristic of stair climbing posture. The DC and AC signal outputs of the accelerometer are processed to develop a tilt signal and an activity signal. A target rate control signal is derived from the activity signal dependent on the level of activity. A stair climbing rate is selected for controlling the physiologic pacing rate between a lower and an upper pacing rate in the presence of an activity signal indicative of a patient walking rate and a tilt signal value falling within a tilt window. The target rate control signal is used to control the pacing rate if the activity signal is indicative of faster patient movement, e.g. running, or if the tilt signal is outside the tilt window indicating that the patient is either upright or prone.

File 350:Derwent WPIX 1963-2000/UD,UM &UP=200110
 File 344:CHINESE PATENTS ABS APR 1985-2001/Feb
 File 347:JAPIO Oct 1976-2000/Jul(UPDATED 001114)
 File 371:French Patents 1961-2000/BOPI 0052

Set	Items	Description
S1	10	AU="STARK J G"
S2	123	AU="STARK J"
S3	3	AU="OYEN D":AU="OYEN D P M"
S4	2	AU="BYBEE T":AU="BYBEE T D"
S5	6	AU="LOHMANN A M"
S6	25	AU="LOHMANN A"
S7	8	AU="BOYD J"
S8	10	AU="BOYD J L"
S9	1	S1:S2 AND S3 AND S4 AND S5:S6 AND S7:S8
S10	181	S1:S8 NOT S9
S11	3476	ORTHOS? OR ORTHOT?
S12	18	NEUROMOTOR?
S13	8570	COORDINATION
S14	269023	JOINT? ?
S15	8	S10 AND S11:S14

9/7/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013120651 **Image available**

WPI Acc No: 2000-292522/200025

Orthosis e.g. for rehabilitation of injured and weakened joints comprises two support portions, a hinge and a resistance applicator

Patent Assignee: IZEX TECHNOLOGIES INC (IZEX-N)

Inventor: BOYD J L ; BYBEE T ; LOHMANN A M ; OYEN D P M ; STARK J G

Number of Countries: 025 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200012041	A2	20000309	WO 99US19935	A	19990830	200025 B

Priority Applications (No Type Date): US 99382433 A 19990825; US 9898779 A 19980901

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200012041	A2	E	99	A61H-000/00	

Designated States (National): CA CN JP MX NO ZA

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GR IE IT LU MC NL PT SE

Abstract (Basic): WO 200012041 A2

NOVELTY - The orthosis comprises two support portions which are fitted around opposite sides of a patients joint, a hinge connecting the support portions and a resistance applicator connected to the hinge that provides resistance to rotation of the hinge.

DETAILED DESCRIPTION - The orthosis has a first support portion which fits around a first body portion on a first side of a patient's joint. A second support fits around a second body portion. The second body portion is on the opposite side of the joint from the first body portion. A hinge connects the first and second portions together. A resistance applicator is connected to the hinge to provide resistance to rotation of the hinge. The resistance applicator has two surfaces and the second is movable relative to the first surface. A crank is located between the surfaces and is rotatable relative the first surface.

A compression unit is located between the first surface and the second surface. The compression unit applies resistance with respect to the rotation of the crank relative to the first surface with amount of resistance being related to the distance of the first surface to the second surface.

INDEPENDENT CLAIMS are also included for the following:

- (a) a method of performing closed chain exercises,
- (b) **a method of performing coordination exercise for neuromotor training,** and
- (c) an instrumented exercise device.

USE - For rehabilitation of injured and weakened joints

ADVANTAGE - Provides efficient way of programming exercises, monitoring exercises and evaluating exercise to provide comprehensive program for rehabilitation of injured or weakened joint.

DESCRIPTION OF DRAWING(S) - The figure shows a plot of range of motion exercise as measured with orthosis of the invention.

pp; 99 DwgNo 54/66

Derwent Class: P33; S05; T01

International Patent Class (Main): A61H-000/00

15/26/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007260762

WPI Acc No: 1987-257769/198737

Hydraulic circuit for assembling bearings of universal joints - has flow restrictor orifices to provide fine control of operating pressure

15/26/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

004260956

WPI Acc No: 1985-087834/198515

Establishing universal shaft coupling - using fluid power actuator to provide centring and avoid jamming

15/26/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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004260955

WPI Acc No: 1985-087833/198515

Universal joint assembly system - preloads each fork arm while pressing home and securing bearing

15/7/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013360677 **Image available**

WPI Acc No: 2000-532616/200048

Real-time remote monitoring system for instrumented orthosis, for rehabilitation after bone fracture; has orthosis connected to telecommunication station for transferring performance values from orthosis as well as voice transfer

Patent Assignee: IZEX TECHNOLOGIES INC (IZEX-N)

Inventor: OYEN D ; TRACEY T N

Number of Countries: 089 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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WO 200040171 A2 20000713 WO 99US31030 A 19991228 200048 B
AU 200022181 A 20000724 AU 200022181 A 19991228 200052
Priority Applications (No Type Date): US 99226866 A 19990107

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200040171 A2 E 32 A61F-000/00

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN
CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200022181 A A61F-000/00 Based on patent WO 200040171

Abstract (Basic): WO 200040171 A2

NOVELTY - The system (100) has an instrumented orthosis (102) connected to a telecommunication station for information transfer. The telecommunication station transmits performance values from the orthosis, while exchanging oral communications during a telecommunication session, by way of a network.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for a method for rehabilitating an injured joint, a method for adapting an instrumented orthosis for real-time remote monitoring, a method of evaluating output from an instrumented orthosis and a method of evaluating treatment with an instrumented orthosis.

USE - Real-time remote monitoring system for instrumented orthosis, for rehabilitation after bone fracture. Can be used to perform isokinetic or isometric exercises.

ADVANTAGE - Simplifies rehabilitation process. Improves patient compliance, by reassuring patient.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic view of a real-time monitoring system involving an instrumented orthosis and a telecommunication device.

real-time monitoring system (100)
instrumented orthosis (102)
telecommunication device (104)
orthosis interface (106)
first computer (108)
second computer (110)
communication network (112)
optional second communication network (114)
remote monitoring display (116)
pp; 32 DwgNo 1/8

Derwent Class: P32; S05; T01; W01

International Patent Class (Main): A61F-000/00

15/7/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

012719862 **Image available**

WPI Acc No: 1999-525974/199944

Two-way orthopedic parameters signal communication method for patients suffering from joint, ligament or muscle damages

Patent Assignee: DEMPSTER S B (DEMP-I); STARK J G (STAR-I)

Inventor: DEMPSTER S B; STARK J G

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9842257	A1	19981001	WO 98US5600	A	19980323	199845 B
EP 1001702	A1	20000524	EP 98915149	A	19980323	200030
			WO 98US5600	A	19980323	

Priority Applications (No Type Date): US 97824065 A 19970324

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9842257	A1	E	45	A61B-005/103	
Designated States (National): CA JP US					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					

EP 1001702 A1 E A61B-005/103 Based on patent WO 9842257

Designated States (Regional): CH DE ES FR GB IT LI

Abstract (Basic): WO 9842257 A

The restraining device is used to provide passive correction of biological deformity and exercising of muscle or tissue. A device for correcting back orthosis has a pelvic girdle (402) and throat moulds (404) connected by two upright supports (406,408). These are positioned along the front and back of the patient. Three side straps (410,412,414) are attached to the supports and their position on the supports is adjustable.

The straps include force applicators (430,432,434). These include pressure sensors (436,438,440). The force applicators apply force via bladders. A microprocessor accepts signals from the pressure sensors and monitor the pressure and/or give alarms.

ADVANTAGE - Provides a portable orthopaedic restraining device providing both monitoring and warnings.

Dwg.10/12

Derwent Class: P31; P32; S05; T01

International Patent Class (Main): A61B-005/103

International Patent Class (Additional): A61F-005/00; A61F-005/34

File 348:EUROPEAN PATENTS 1978-2000/Feb W02

File 349:PCT Fulltext 1983-2001/UB=20010215, UT=20010201

Set	Items	Description
S1	11	AU="STARK JOHN G"
S2	2	AU="STARK JOHN"
S3	9	AU="OYEN DUANE":AU="OYEN DUANE P M"
S4	3	AU="BYBEE THOMAS":AU="BYBEE THOMAS D"
S5	2	AU="LOHMANN ARTHUR M"
S6	2	AU="BOYD JOEL L"
S7	2	S1:S2 AND S3 AND S4 AND S5 AND S6
S8	14	S1:S6 NOT S7
S9	14	IDPAT (sorted in duplicate/non-duplicate order)
S10	9	IDPAT (primary/non-duplicate records only)

7/3,AB/1 (Item 1 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2001 European Patent Office. All rts. reserv.

01145461

ORTHOSES FOR JOINT REHABILITATION

ORTHESE POUR REEDUCATION FONCTIONNELLE D'UNE ARTICULATION

PATENT ASSIGNEE:

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INVENTOR:

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OYEN, Duane, P., M. , 7347 Orchid Lane North, Maple Grove, MN 55311,
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BYBEE, Thomas , 5031 142nd St. N.W., Ramsey, MN 55303, (US)
LOHMANN, Arthur, M. , 5985 Rowland Road 307, Minnetonka, MN 55343, (US)
BOYD, Joel, L. , 9571 Olympia Drive, Eden Prairie, MN 55347, (US)
PATENT (CC, No, Kind, Date):
WO 0012041 000309
APPLICATION (CC, No, Date): WO 99968210 990830; WO 99US19935 990830
PRIORITY (CC, No, Date): US 98779 P 980901; US 382433 990825
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: A61H-001/00
LANGUAGE (Publication,Procedural,Application): English; English; English

7/3,AB/2 (Item 1 from file: 349).
DIALOG(R)File 349:PCT Fulltext
(c) 2001 WIPO/MicroPat. All rts. reserv.
00700726

ORTHOSES FOR JOINT REHABILITATION

ORTHESE POUR REEDUCATION FONCTIONNELLE D'UNE ARTICULATION

Patent Applicant/Assignee:

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Golden Valley, MN 55422, US

Inventor(s):

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OYEN Duane P M , OYEN, Duane, P., M., 7347 Orchid Lane North, Maple
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BYBEE Thomas , BYBEE, Thomas, 5031 142nd St. N.W., Ramsey, MN 55303, US
LOHMANN Arthur M , LOHMANN, Arthur, M., 5985 Rowland Road &307,
Minnetonka, MN 55343, US

BOYD Joel L , BOYD, Joel, L., 9571 Olympia Drive, Eden Prairie, MN
55347, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 0012041 A2 20000309 (WO 200012041)

Application: WO 99US19935 19990830 (PCT/WO US9919935)

Priority Application: US 9898779 19980901

Designated States: CA CN JP MX NO ZA AM AZ BY KG KZ MD RU TJ TM AT BE CH CY

DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Filing Language: English

Fulltext Word Count: 19516

English Abstract

Orthoses with microprocessor control placed around the joint of a patient are used to perform and to monitor isometric, range-of-motion, proprioception and isotonic exercises of the joint. A variety of improved hardware elements result in an orthosis that is easier to use and interacts more efficiently with the controller to allow the monitoring of a greater range of motions while holding down cost and provide suitable accurate evaluation of the exercises. Efficient ways of programming the exercises, monitoring the exercises and evaluating the exercise provide a comprehensive program for the rehabilitation of an injured or weakened joint.

10/TI/6 (Item 6 from file: 348)

DIALOG(R)File 348:(c) 2001 European Patent Office. All rts. reserv.

COMMUNICATIONS NETWORK, A DUAL MODE DATA TRANSFER SYSTEM THEREFOR

10/TI/9 (Item 9 from file: 349)

DIALOG(R)File 349:(c) 2001 WIPO/MicroPat. All rts. reserv.
ORTHOPEDIC RESTRAINING DEVICE AND METHOD OF USE

10/3,AB/1 (Item 1 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2001 European Patent Office. All rts. reserv.

01244987

SYSTEM FOR ORTHOPEDIC TREATMENT PROTOCOL

SYSTEME DESTINE AU PROTOCOLE DE TRAITEMENT ORTHOPEDIQUE

PATENT ASSIGNEE:

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Golden Valley, MN 55422, (US), (Applicant designated States: all)

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PATENT (CC, No, Kind, Date):

WO 0076416 001221

APPLICATION (CC, No, Date): WO 941304 000609; WO 00US15888 000609

PRIORITY (CC, No, Date): US 329880 990611

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LU; MC; NL; PT; SE

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

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LANGUAGE (Publication,Procedural,Application): English; English; English

10/3,AB/2 (Item 2 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01188237

REMOTE MONITORING OF AN INSTRUMENTED ORTHOSIS

COMMANDE A DISTANCE D'ORTHESE AVEC INSTRUMENTS

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PATENT (CC, No, Kind, Date):

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APPLICATION (CC, No, Date): WO 99966681 991228; WO 99US31030 991228

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DIALOG(R)File 348:EUROPEAN PATENTS

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00998161

ORTHOSES

ORTHESEN

ORTHESES

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PATENT (CC, No, Kind, Date): EP 1001702 A1 000524 (Basic)
WO 9842257 981001

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INTERNATIONAL PATENT CLASS: A61B-005/103; A61F-005/00; A61F-005/34

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LANGUAGE (Publication,Procedural,Application): English; English; English

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DIALOG(R)File 348:EUROPEAN PATENTS

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00822281

**AN ORTHOPEDIC DEVICE SUPPORTING TWO OR MORE TREATMENT SYSTEMS AND
ASSOCIATED METHODS**

ORTHOPADISCHE VORRICHTUNG DIE ZWEI ODER MEHRERE BEAHNDLUNGSSYSTEME
UNTERSTUTZT UND DAZUGEHORENDES VERFAHREN

DISPOSITIF ORTHOPEDIQUE SUPPORTANT AU MOINS DEUX SYSTEMES DE TRAITEMENT ET
PROCEDES ASSOCIES

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WO 9636278 961121

APPLICATION (CC, No, Date): EP 96920238 960516; WO 96US7047 960516

PRIORITY (CC, No, Date): US 442945 950517

DESIGNATED STATES: DE; ES; FR; GB; IT

INTERNATIONAL PATENT CLASS: A61B-005/11; A61B-017/56; A61H-001/02;

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LANGUAGE (Publication,Procedural,Application): English; English; English

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DIALOG(R)File 349:PCT Fulltext

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00765251

REHABILITATIVE ORTHOSES

ORTHESES DE REEDUCATION

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LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ

TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

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English Abstract

Instrumented orthoses (100, 700, 800) with more sophisticated structures provide for coordinated support and rehabilitation of complex joints a multiple injured joints. Improved instrumented orthoses can include hinges (510, 540) than can rotate in multiple different planes. Particularly preferred embodiments include a shoulder brace (700) with a hand hole (774) and a lower extremities brace (870). Preferably, a control unit (112, 716, 818) monitors the output of transducers (108, 110, 114, 116) used to instrument the brace. A patient can be prompted by the control unit for the performance of a variety of different monitored exercises.